



Drought 2007

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**What is it?**  
**Where is it?**  
**Who is doing what?**

Nick Fielder

TDEC Emergency Services Coordinator with TEMA

Department of Environment and Conservation

December 10, 2007

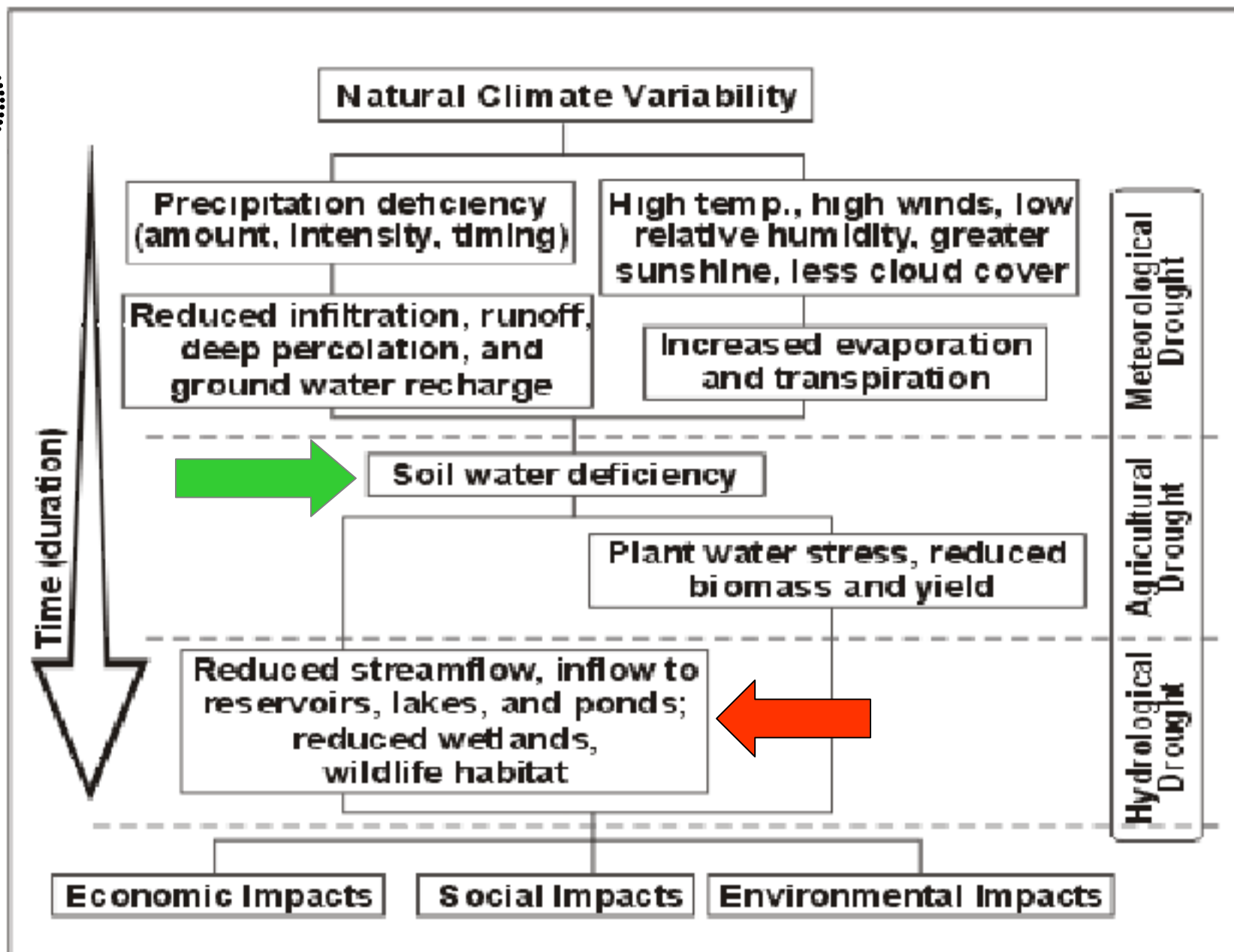
Water Resources Technical Advisory Committee



# Drought Definitions

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- **CONCEPTUAL** - General terms
- **OPERATIONAL** - Uses measured values
- **AGRICULTURAL** (Crop & Animal)
- **HYDROLOGICAL** (Water Resources)
- **SOCIO-ECONOMIC** (Human Impacts)





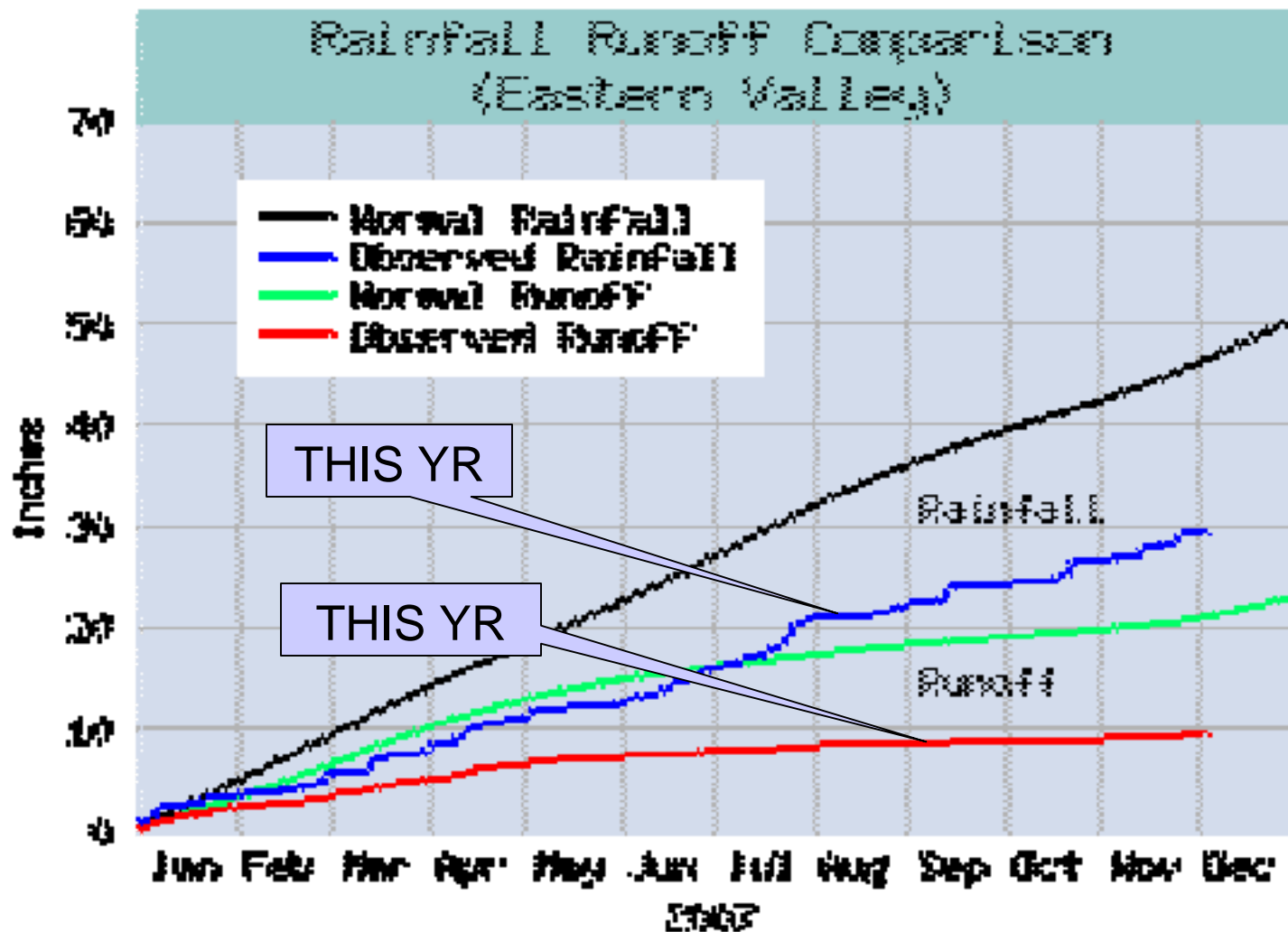
# Drought Classifications

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- Combines Indices and Observations
- Range: D0 through D4
- **D3 EXTREME** – Major crop losses; extreme fire danger; widespread water shortages; Palmer Drought Index: 4.0 – 4.9
- **D4 EXCEPTIONAL** – stream flows 0-2%; Palmer Drought Index: < -5.0



# Rainfall and Runoff Comparison

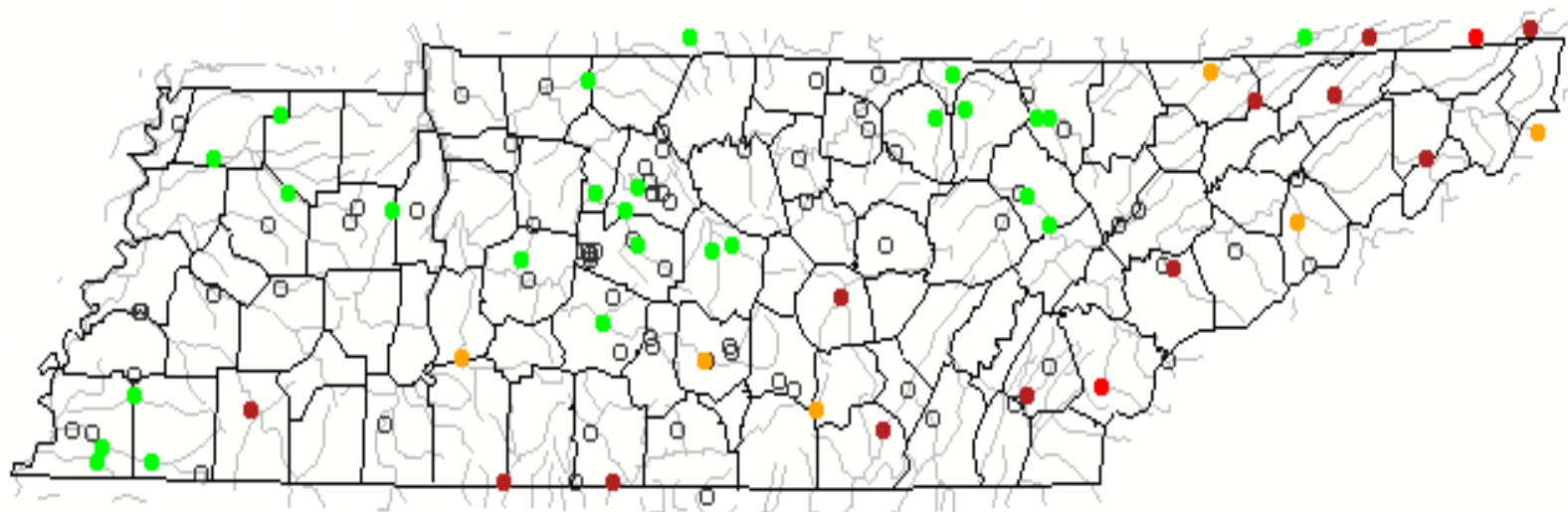


12/15/2007



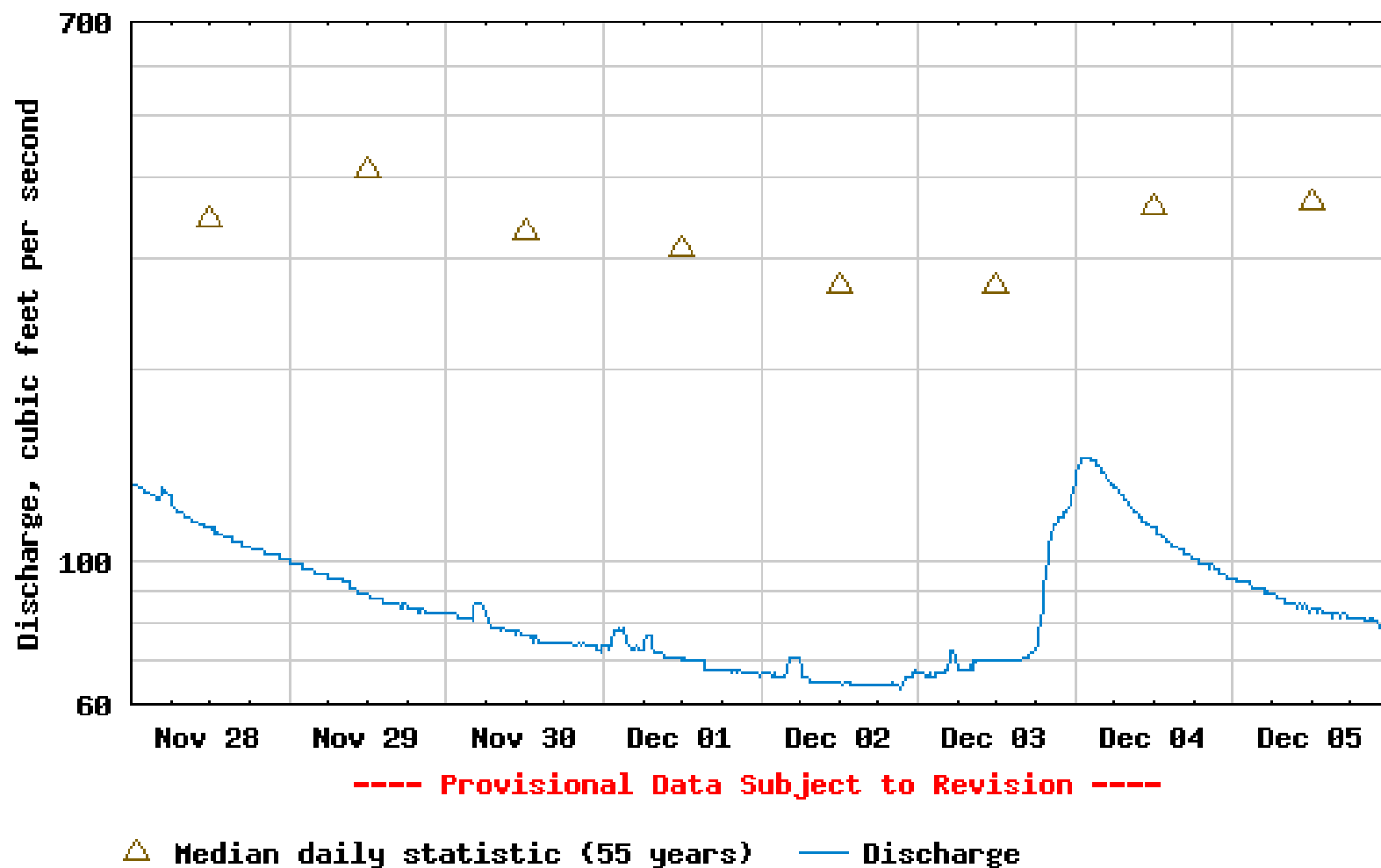
# Stream Flows Under Stress

Thursday, November 08, 2007 07:30ET





# USGS 03498500 LITTLE RIVER NEAR MARYVILLE, TN

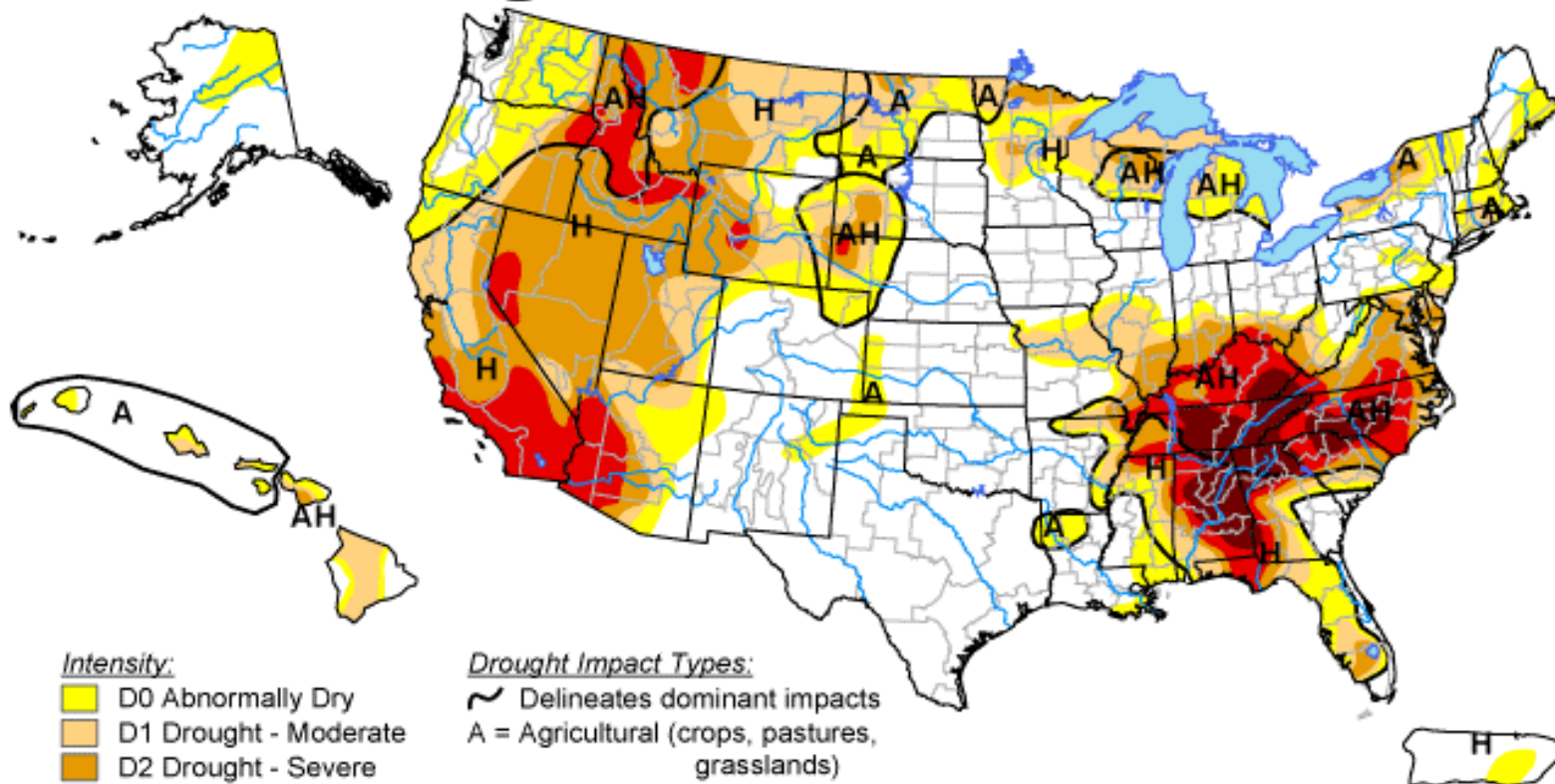




# U.S. Drought Monitor

October 2, 2007

Valid 8 a.m. EDT



## Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

## Drought Impact Types:

- Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)

*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

<http://drought.unl.edu/dm>



**Released Thursday, October 4, 2007**

**Author: Jay Lawrimore/Liz Love-Brotak, NOAA/NESDIS/NCDC**



# U.S. Drought Monitor

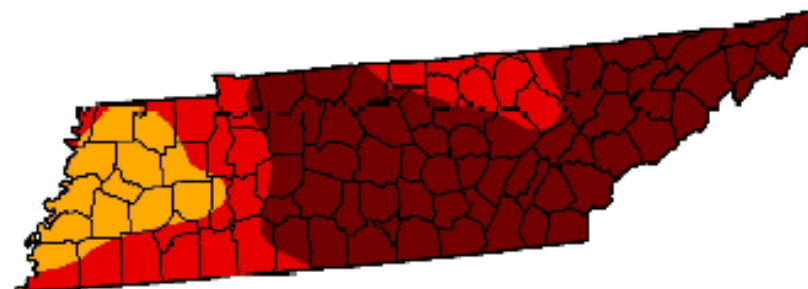
## Tennessee

October 9, 2007

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.0	100.0	100.0	100.0	85.7	61.3
Last Week (10/02/2007 map)	0.0	100.0	100.0	100.0	85.7	61.3
3 Months Ago (07/17/2007 map)	0.0	100.0	99.2	93.9	56.6	5.7
Start of Calendar Year (01/02/2007 map)	37.7	62.3	0.0	0.0	0.0	0.0
Start of Water Year (10/02/2007 map)	0.0	100.0	100.0	100.0	85.7	61.3
One Year Ago (10/10/2006 map)	34.7	65.3	0.0	0.0	0.0	0.0



Intensity:



The Drought Monitor focuses on broad-scale conditions.  
Local conditions may vary. See accompanying text summary  
for forecast statements

<http://drought.unl.edu/dm>



Released Thursday, October 11, 2007

Author: J. Lawrimore/L. Love-Brotak, NOAA/NESDIS/NCDC



# U.S. Drought Monitor

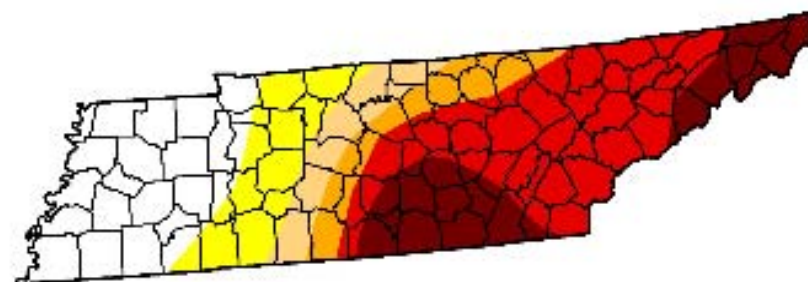
## Tennessee

November 27, 2007

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	25.6	74.4	61.8	54.5	46.6	16.5
Last Week (11/20/2007 map)	17.7	82.3	66.3	61.2	50.3	23.9
3 Months Ago (09/04/2007 map)	0.0	100.0	100.0	100.0	99.1	62.2
Start of Calendar Year (01/02/2007 map)	37.7	62.3	0.0	0.0	0.0	0.0
Start of Water Year (10/02/2007 map)	0.0	100.0	100.0	100.0	85.7	61.3
One Year Ago (11/28/2006 map)	100.0	0.0	0.0	0.0	0.0	0.0



### Intensity:



The Drought Monitor focuses on broad-scale conditions.  
Local conditions may vary. See accompanying text summary  
for forecast statements

<http://drought.unl.edu/dm>



Released Thursday, November 29, 2007  
Author: Brad Rippey, U.S. Department of Agriculture



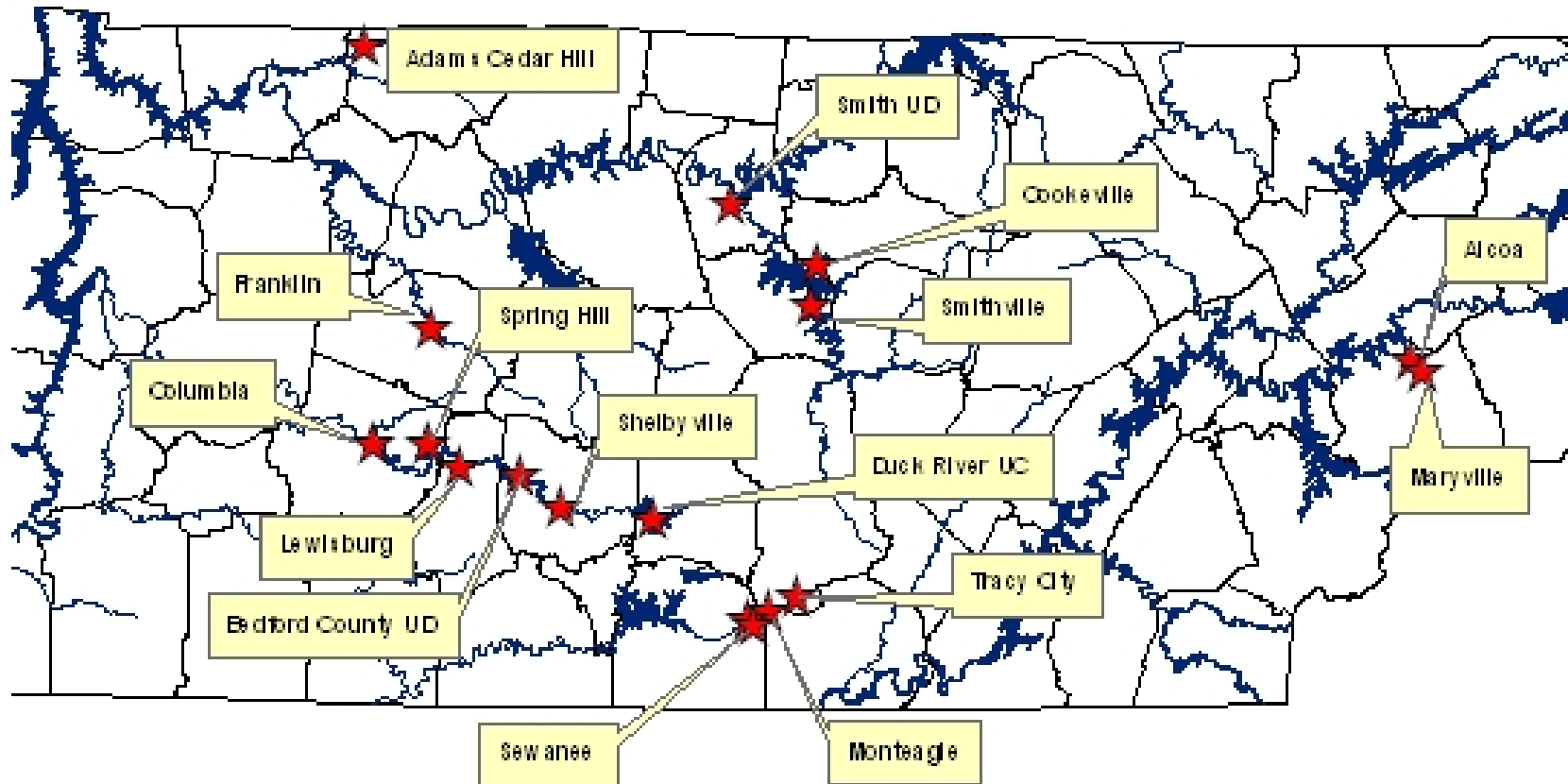
## Drought Task Force

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- TDEC
- Agriculture
- TWRA
- ECD
- TEMA
- Tennessee Association of Utility Districts
- TVA
- NOAA National Weather Service
- U.S. Corps OF Engineers
- U.S. Fish and Wildlife Service
- U.S. EPA



## Drought Impact Issues





# Lake Laurel at Monteagle





# Intake at Lake Laurel





# Lake at Tracy City





# Little River in Blount County





# Result of Alcoa and Maryville Cooperation



Alcoa's Pipeline for Upstream Recharge



# TEMPORARY EMERGENCY RAW WATER SUPPLY



CITY OF ALCOA

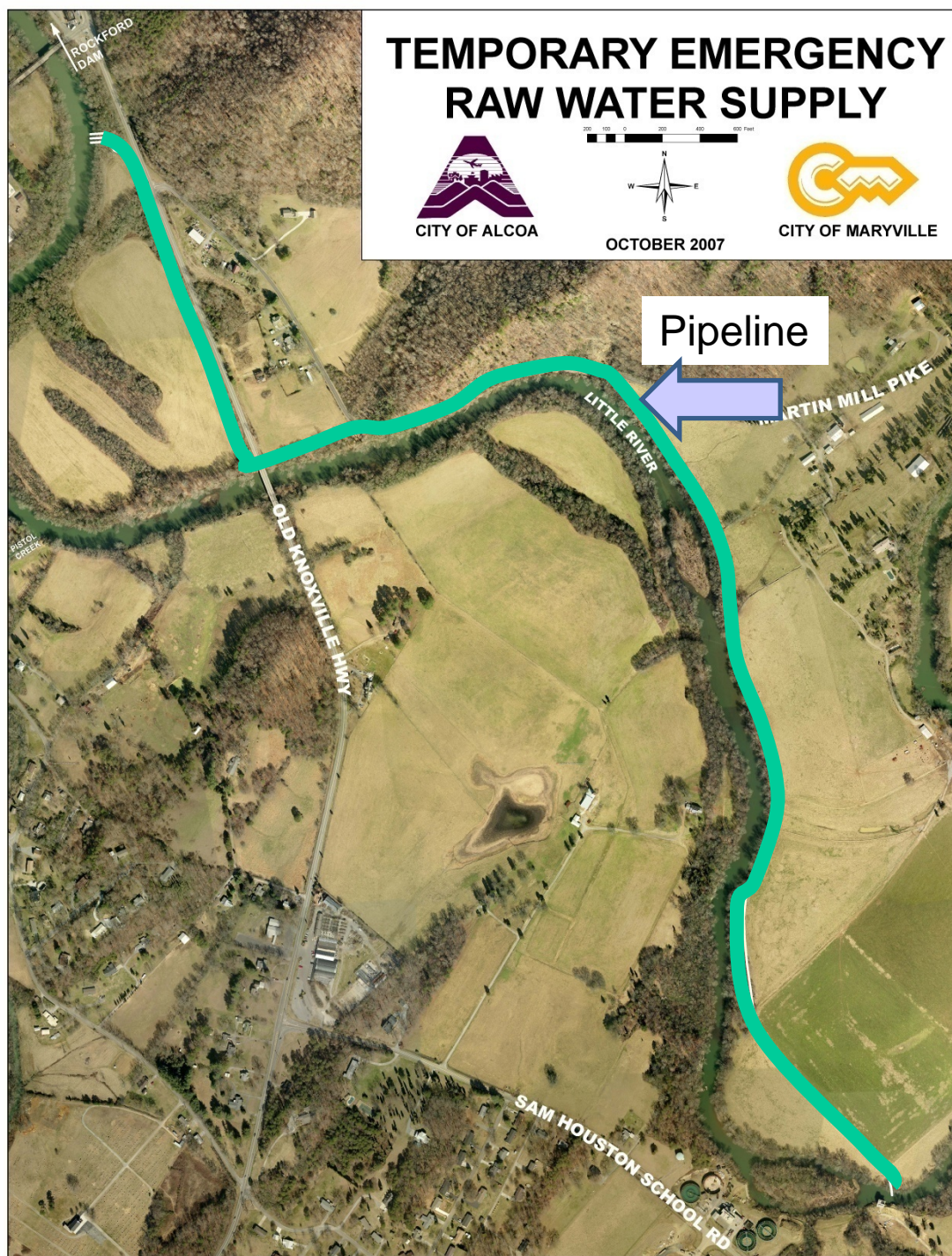
0 100 200 300 400 Feet



OCTOBER 2007



CITY OF MARYVILLE





# Normandy Reservoir & the Duck River

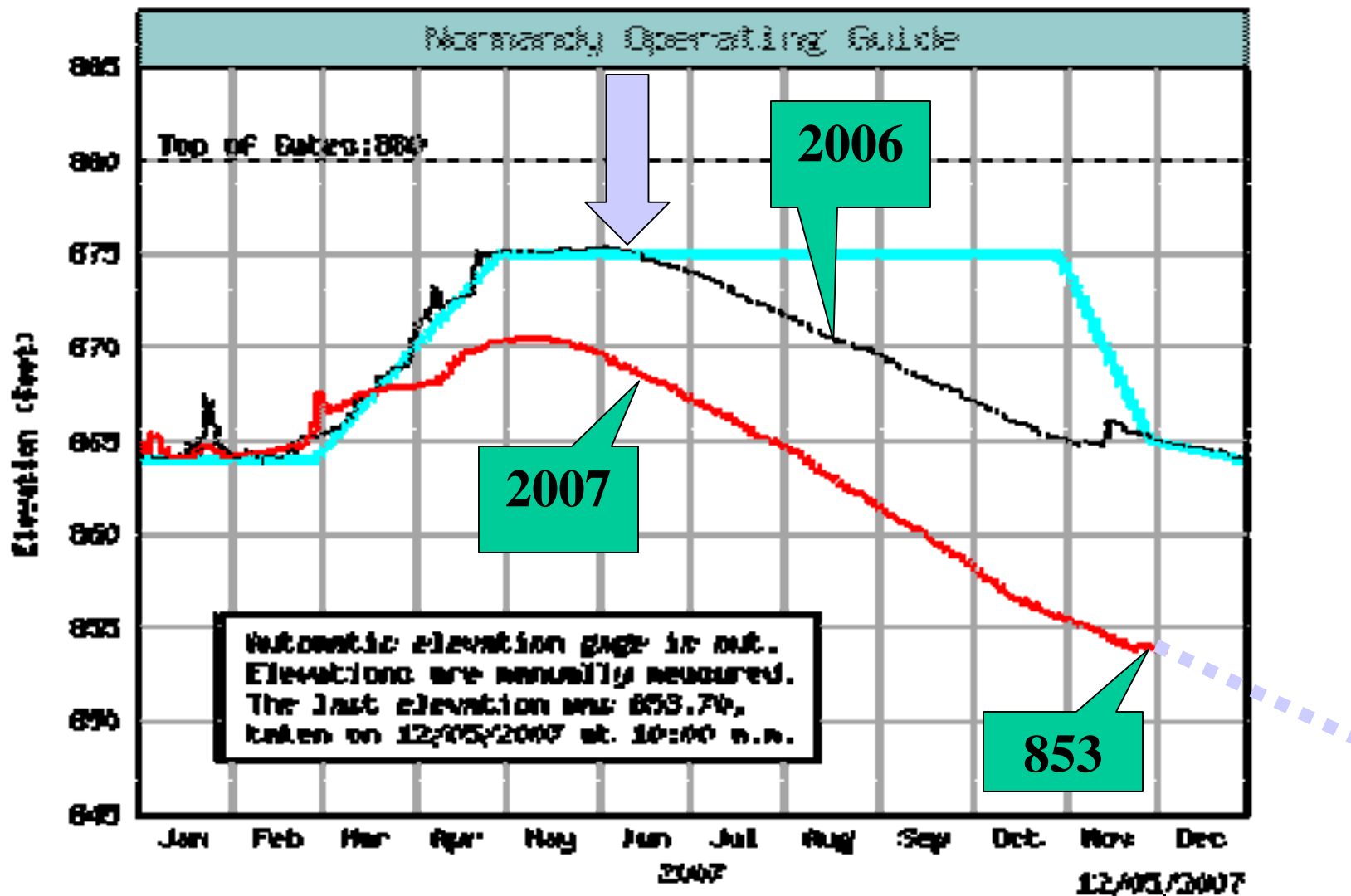
## *NORMANDY D A M*



July 1999



# Normandy Reservoir & the Duck River





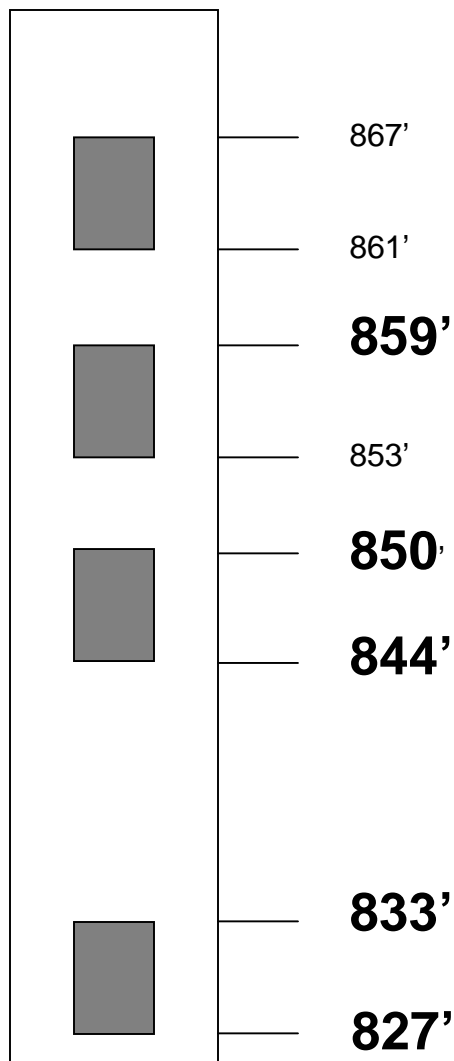
# Normandy Reservoir Elevations & DRUC Intakes

**Normal  
Operating  
Range**      875' — — — —  
864' — — — —

**Current Reservoir Elevation**  
**853.4'**

**Lowest  
Since  
Impoundment**      853' —————

**DRUC  
can no  
longer  
pump**      835' —————





# Normandy Dam Stakeholders Meeting





Questions?

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Hoping for rain is not a good plan.

Nick Fielder

TDEC Emergency Services Coordinator with TEMA

Department of Environment and Conservation

(615) 532-6683